

AMENDMENTS TO THE CLAIMS

1. (Currently amended) An information recording apparatus for recording information on a recording medium by forming marks different in a physical property from non-recorded portions with energy injected into the recording medium, comprising:

energy generation means which generates recording energy;

reading means which reads marks recorded on the recording medium;

position control means which controls an injecting position of the recording energy output from the energy generation means for the recording medium and controls a reading position of the reading means;

drive means which drives the energy generation means;

switching means which selectively switches information based on user's data or test information to be supplied to the drive means;

~~reading means which reads marks recorded on the recording medium;~~

evaluation means which evaluates a reproduced signal amplitude obtained from the reading means; and

recording condition control means which controls a recording condition ~~of in accordance with~~ an evaluation result obtained from the evaluation means,

wherein in a case of reproducing the marks having the test information, a ~~control operation target condition of a track following operation~~ of the position control means is unchanged in a first reproduction in comparison with a time when the test information is recorded and changed in a second reproduction in comparison with a time when the test information is recorded, and

wherein the recording condition is controlled in accordance with ~~values of~~ a signal amplitude in the first reproduction and a signal amplitude in the second reproduction.

2-7. (Canceled)

8. (Currently amended) The apparatus ~~according to~~ of claim 1, further comprising ~~vibration means which vibrates the reading means in a direction perpendicular to a main scanning direction on the recording medium;~~

means for vibrating an optical spot in a direction perpendicular to a track scanning

direction and in parallel with a recording medium.

9-11. (Canceled)

12. (Currently amended) An information recording method for recording information on a recording medium by forming marks different in a physical property from non-recorded portions with energy injected into the recording medium, comprising the steps of:

controlling a position of energy generation means with irradiation on the recording medium to be positioned injecting the energy on a predetermined area on the recording medium and a position of reading means which reads marks recorded on the recording medium;

irradiating a recording energy on the recording medium to record test information; reproducing, as a first reproduction, the test information without a change of the recording and a target track following condition of the position control from a time when the test information is recorded;

reproducing, as a second reproduction, the test information with a change of the recording and the target track following condition of the position control from a time when the test information is recorded; and

controlling a recording condition in accordance with values of a signal amplitude in the first reproduction step and a signal amplitude in the second reproduction step.

13. (Currently amended) The method according to of claim 12, in the first and second reproduction steps, either a stop or a start of a tracking-offset amount, or or a tracking polarity, or a stop or a start of a tracking operation is changed.

14. (Currently amended) An information recording apparatus for recording information on a recording medium by forming marks different in a physical property from a non-recorded portion with energy injected into the recording medium, comprising:

energy generation means which generates recording energy;

reading means which reads marks recorded on the recording medium;

position control means which controls an injecting position of the recording energy

output from the energy generation means for the recording medium and a reading position of the reading means;

drive means which drives the energy generation means;

switching means which switches information based on a user's data or test information to be supplied to the drive means;

~~reading means which reads marks recorded on the recording medium;~~

evaluation means which evaluates a reproduced signal obtained from the reading means;
and

recording condition control means which controls a recording condition ~~of~~ in accordance with an evaluation result obtained from the evaluation means,

wherein in a case of reproducing the marks having the test information, a ~~control operation~~ target condition of a track following operation of the position control means is unchanged in a first reproduction in comparison with a time when the test information is recorded and changed in a second reproduction in comparison with a time when the test information is recorded,

wherein the recording condition is controlled in accordance with ~~values~~ of a signal amplitude in the first reproduction and a signal amplitude in the second reproduction, and

wherein the changed content of the control operation for the position control means is a ~~stop or a start of~~ a tracking offset amount of the track following operation carried out by the position control means.

15. (Currently amended) An information recording apparatus for recording information on a recording medium by forming marks different in a physical property from a non-recorded portion with energy injected into the recording medium, comprising:

energy generation means which generates recording energy;

reading means which reads marks recorded on the recording medium;

position control means which controls an injecting position of the recording energy output from the energy generation means for the recording medium and a reading position of the reading means;

drive means which drives the energy generation means;

switching means which switches information based on a user's data or test information to be supplied to the drive means;

~~reading means which reads marks recorded on the recording medium;~~

evaluation means which evaluates a reproduced signal obtained from the reading means; and

recording condition control means which controls a recording condition ~~of~~ in accordance with an evaluation result obtained from the evaluation means,

wherein in a case of reproducing the marks having the test information, a ~~control operation~~ target condition of a track following operation of the position control means is unchanged in a first reproduction in comparison with a time when the test information is recorded and changed in a second reproduction in comparison with a time when the test information is recorded,

wherein the recording condition is controlled in accordance with ~~values of~~ a signal amplitude in the first reproduction and a signal amplitude in the second reproduction, and

wherein the changed content of the control operation for the position control means is a tracking polarity carried out by the position control means.

16. (Currently amended) An information recording apparatus for recording information on a recording medium by forming marks different in a physical property from a non-recorded portion with energy injected into the recording medium, comprising:

energy generation means which generates recording energy;

reading means which reads marks recorded on the recording medium;

position control means which controls an injecting position of the recording energy output from the energy generation means for the recording medium and a reading position of the reading means;

drive means which drives the energy generation means;

switching means which switches information based on a user's data or test information to be supplied to the drive means;

~~reading means which reads marks recorded on the recording medium;~~

evaluation means which evaluates a reproduced signal obtained from the reading means;

and

recording condition control means which controls a recording condition ~~of~~ in accordance with an evaluation result obtained from the evaluation means,

wherein in a case of reproducing the marks having the test information, a ~~control operation~~ target condition of a track following operation of the position control means is unchanged in a first reproduction in comparison with a time when the test information is recorded and changed in a second reproduction in comparison with a time when the test information is recorded,

wherein the recording condition is controlled in accordance with ~~values of~~ a signal amplitude in the first reproduction and a signal amplitude in the second reproduction, and

wherein the changed content of the control operation for the position control means is a stop or start of a tracking operation carried out by the position control means.

17. (Currently amended) The apparatus ~~according to~~ of claim 1, wherein the changed content of the control operation for the position control means is ~~a stop or a start of~~ a tracking-offset amount, indicated by the position control means in a case where the test information is supplied to the drive means and recorded on the recording medium, and in-phase mark arrangement is recorded on adjacent tracks,

wherein in a case where the test information is supplied to the drive means and recorded on the recording medium, the test information inconsistent with a conversion rule of a conversion means is used,

wherein test information containing a longer run-length than a run-length rule of the conversion means is used as the test information.

18. (Currently amended) The apparatus ~~according to~~ of claim 1, wherein the changed content of the control operation for the position control means is ~~a stop or a start of~~ a tracking polarity, indicated by the position control means in a case where the test information is supplied to the drive means and recorded on the recording medium, and in-phase mark arrangement is recorded on adjacent tracks,

wherein in a case where the test information is supplied to the drive means and recorded

on the recording medium, the test information inconsistent with a conversion rule of a conversion means is used,

wherein test information containing a longer run-length than a run-length rule of the conversion means is used as the test information.

19. (Currently amended) The apparatus ~~according to~~ of claim 1, wherein the changed content of the control operation for the position control means is a stop or a start of a tracking operation, indicated by the position control means in a case where the test information is supplied to the drive means and recorded on the recording medium, and in-phase mark arrangement is recorded on adjacent tracks,

wherein in a case where the test information is supplied to the drive means and recorded on the recording medium, the test information inconsistent with a conversion rule of a conversion means is used,

wherein test information containing a longer run-length than a run-length rule of the conversion means is used as the test information.

20. (Currently amended) The apparatus ~~according to~~ of claim 1, further comprising vibration means which vibrates the reading means in a direction perpendicular to a main scanning direction on the recording medium and in parallel with the recording medium;

wherein the changed content of the control operation for the position control means is a stop or a start of ~~a target track, indicated by the position control means~~ vibrating operation of the vibrating means in a case where the test information is supplied to the drive means and recorded on the recording medium, and in-phase mark arrangement is recorded on adjacent tracks,

wherein in a case where the test information is supplied to the drive means and recorded on the recording medium, the test information inconsistent with a conversion rule of a conversion means is used,

wherein test information containing a longer run-length than a run-length rule of the conversion means is used as the test information.

21-32. (Canceled)